

ABSTRACT

A data transfer circuit comprises a voltage/current converter circuit for converting a first binary voltage data of n bits (n is an integer equal to or larger than two) to multi-value current data of 2^n values which is output to a single data transfer line. A current comparator circuit converts the multi-value current data on the data transfer line to binary current data of (2^n-1) bits, and a current/voltage converter circuit converts the binary current data of the (2^n-1) bits to second binary voltage data of (2^n-1) bits. A counter circuit restores the first binary voltage data of the n bits from the second binary voltage data of the (2^n-1) bits.